

Chapter 8: City of Key West

The City of Key West, the County seat of Monroe County, is located in the southernmost portion of the Lower Keys. Incorporated in 1832 and nicknamed the “Island City”, the City is surrounded by the turquoise waters of the Gulf of Mexico and Atlantic Oceans. Aside from its natural beauty, Key West is noted for historic and cultural resources with over 2500 historic buildings and sites. The National Register Historic District is often referred to as “Old Town” and contains many unique wood frame structures that are over 100 years old.

8.1 Overview of Key West

Geography

The island of Key West comprises just 3,370 acres in area. It is low-lying, rising from 2 feet along the shoreline near Rest Beach to 16 feet above mean sea level at Solares Hill. Other higher elevations are man-made and are the waste management area (landfill) and bridges such as Garrison Bight Causeway. Most of the newer development, built on fill material, and are raised buildings. While most of the “Old Town” section averages around 7-feet MSL, certain locations important for tourism, such as Front Street, Key West Bight, and Mallory Square are only at 3-feet MSL. Critical areas such as Key West Airport and South Roosevelt Boulevard are at very low elevations (approximately 3-feet MSL).

The City’s few natural beaches have oolitic limestone outcrops or thin sand and shell over a rocky base; a low dune exists at Rest Beach. Although sandy beaches are present along the southern shore (e.g., Higgs Beach and Smathers Beach), some were artificially constructed. Mangroves are present along small sections of the island’s northern shoreline. Beaches on the southern shoreline experience erosion due to coastal currents, tides, and wave impact. The rate of erosion accelerates during storm events. Shallow waters surrounding the island may contribute to increased storm surge height. Canals, cuts, and inlets experience flooding due to storm surges that may be higher than along flat shorelines.

Population

Information provided by the Key West Planning Department indicates that the City of Key West has a permanent resident population of approximately 27,000 (including military personnel). The seasonal population increases by as much as 16,000. On any given day the number of people in town can increase dramatically due to the number of tourists that arrive on cruise ships.

Land Use & Economy

Key West essentially is completely developed, with a mix of single family residences, multi-family dwellings, time-share and seasonal units, tourist lodgings (hotels, motels, inns, bed and breakfasts, etc.), tourist-oriented uses (museums, attractions), marine-related and recreational uses, commercial uses (restaurants, retail sales, banks, Realtors), medical facilities and offices, and government uses. Redevelopment and renovation are constant activities.

Comprehensive Plan

Key West Comprehensive Plan includes such mitigation policies as restoration of the dune system using natural, indigenous vegetation for beach renourishment projects. The City applies performance criteria and regulatory techniques for hazard mitigation and loss reduction, such as prohibition in the Coastal High Hazard area of construction of sewage treatment plants, industrial holding ponds, and other point sources of pollution. Non-residential development must meet storm and floodproofing standards that exceed the minimums established by the National Flood Insurance Program.

The Coastal Management Element includes policies to restrict development in the Coastal High Hazard Area, including prohibition of construction of new sewage treatment plants, holding ponds, and other point sources of pollution. Non-residential development must meet storm and floodproofing standards that exceed minimums established by the National Flood Insurance Program.

8.2 City Organization and Agencies

The Key West City Commission is composed of 7 members, including the Mayor who is elected specifically to that office. The Commission sets government policy and adopts guidance documents, such as the Comprehensive Plan and ordinances establishing various codes and standards.

Key West is organized into several agencies, each with some authorized responsibilities that, as described below, have bearing on how natural hazards are recognized and addressed.

City Manager. The City Manager of Key West implements the policies of the Commission and administers the overall operations of the City. Related to mitigation of the impacts of natural hazards, the City Manager:

- Participates in post-disaster assessment and may develop mitigation initiatives to address reduction of future loss.

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- Participates in the Key West Emergency Operations Center (EOC) and coordinates with the County and other local governments.
 - Works with the City's Post-Disaster Recovery Task Force which serves as the City's designated Public Facilities Review Committee. This group is charged with the responsibility for reviewing available alternatives for damaged public facilities following a hurricane or other disaster.
 - May perform an analysis and provide recommendations to the City Commission for hazard mitigation options, including relocation and reconstruction of damaged public facilities.
 - Participates in intra- and inter-governmental disaster planning efforts, including multi-agency Site Plan Review Committee and Hazard Mitigation.

Key West Planning Department. The Key West Planning Department is responsible for the development and maintenance of the City's Comprehensive Plan. Department personnel serve as staff to the City's Planning Commission and, related to hazard mitigation:

- Ensures that mitigation related items in the Comprehensive Plan, such as floodplain management and natural resource management, are followed and reflected in the City's Codes and Standards.
- Participates in post-disaster appraisals and may formulate additional mitigation measures for use in the Comprehensive Plan.
- Works closely with building and zoning staff to ensure coordination of actions related to disaster planning, recovery, and mitigation.
- Incorporates mitigation recommendations, especially those based on direct disaster experience, in the Evaluation and Appraisal Reports (EAR) required for the Comprehensive Plan.

Key West Building and Zoning Department. The Building and Zoning Department recommends and implements policies provided in the City's Comprehensive Plan and Land Development Regulations. It also reviews construction plans, issues permits, and inspects projects for compliance. The Department is responsible for enforcing zoning and building standards. Department personnel serve as staff to the City's Historic Architectural Review Commission and:

- Supervise implementation of floodplain management controls and zoning regulations designed to minimize damage to structures from wind and waves resulting from storms.
- Enforce the Florida Building Code requirements for wind loads and anchoring foundations into bedrock.
- Implements zoning and development policies for the City's redevelopment areas (Bahama Village and Key West Bight), including mitigation measures

characterized in the Comprehensive Plan as follows “Within the Key West Bight Area, in order to curtail the likelihood of future property damage and/or exposure to the perils of storm driven tides, wind, and waves, the land development regulations shall include performance criteria which restrict building mass and building intensity at strategic locations vulnerable to storm surge”.

- Participates in the Post-Disaster Recovery Task Force.

Key West, Florida
<ul style="list-style-type: none"> • <i>Building Department was established in 1916</i> • <i>Code Enforcement Office has 6 inspections and administrative staff</i> • <i>Building Department has 4 inspectors and support staff</i>

Table 8-1.
Permits Issued in 2003 & 2004

Type of Development	Calendar Year 2003	Calendar Year 2004
New single family	1,072	417
New other (commercial, industrial, religious, etc.)	66	66
New multi-family (2 or more)	14	20
Commercial (additions, renovation, conversions)	697	597
Residential (additions, renovation, conversions)	1,737	1,800
Other	2,983	2,686
Demolition	36	45
Relocation	0	0
Manufactured home (permanent, temporary)	7	12
Totals	6,612	5,643

Key West Historic Architectural Review Commission (HARC). Key West includes numerous historic resources, including a National Register Historic District. HARC reviews activities that impact historic structures and the historic district. The guidelines used by HARC incorporate the principles of the Secretary of the Interior’s Standards for Rehabilitation, along with local controls related to landscaping, signs, etc.

Because historic properties in Key West are treasures that require special treatment and contribute to the City's character which enhances tourism, it is important that the City consider policies that apply to reconstruction after damaging events. HARC developed a "Hurricane Preparation and Recovery Guide" specifically designed for the Key West National Register Historic District. It addresses application of flood height standards, codes, and use of materials that may be considered non-conforming, and requirements if the historic building would receive damage in excess of 50% of the value.

Key West Finance Department. The Finance Department is responsible for overseeing the day-to-day financial requirements of the City, including establishment of purchasing procedures for all agencies. To expedite preparation for, response to, and recovery from disasters, the Finance Department may implement special emergency procedures to expedite necessary purchase and payment before, during, and after a disaster.

Key West City Engineer. The Manager of the City Engineering Department is professionally qualified to review Civil Engineering plans to determine compliance with the Florida Building Code and construction requirements. The Engineer performs other responsibilities relating to the construction and technical needs of the City, including overseeing the engineering requirements of public facilities such as roads, bridges, sewer treatment facility, and other City buildings.

After a damaging event, Engineering staff conduct damage assessments of public infrastructure and works with federal and state agencies such as FEMA and Florida DEM to develop scopes of work and to facilitate funding assistance for recovery operations. Under the federal Public Assistance Program, mitigation measures to reduce future loss to public facilities may be included in requests for recovery assistance. The City Engineer provides input to the Post-Disaster Recovery Task Force.

Key West Public Works Department. The Public Works Department is responsible for overseeing the maintenance and operation of all city facilities, including buildings, roads and bridges. Public Works is responsible for coordination and provision of emergency public works, evaluation of infrastructure damage, and preparation of documentation required for federal reimbursement (including identification of mitigation components to be incorporated during recovery), and coordination of emergency debris clearance.

In executing its disaster and recovery responsibilities, Public Works coordinates with the Florida Department of Transportation (FDOT), Monroe County Department of Public Works, Florida Keys Aqueduct Authority, and City Electric Incorporated. The Department plans, coordinates and initiates restoration of the serviceability of transportation routes, bridges, and assurance as to the safety and affected public and private dwellings and structures.

Key West owns approximately 100 buildings; many are leased to commercial concerns. Some buildings have hurricane shutters; the presence of rooftop equipment and whether it is anchored to resist hurricane winds is not known at this time. All work on buildings must comply with the Florida Building Code and other pertinent requirements (such as floodplain management). The City maintains flood insurance policies on some buildings. For leased buildings, generally if one is damaged the City provides some abatement of rent during the period of restoration. If one is destroyed, the lease would be terminated.

Key West Utilities Director. The Utilities Director is responsible for coordinating various utility resources in the city. These include the Richard A. Heyman Environmental Protection Facility (treatment Plant), Sewage Treatment System including pumping and lift stations, Garbage Collection Program, Waste Transfer Facility, and the Stormwater Utility. These facilities have specific written emergency plans and procedures designed for use in emergencies such as tropical cyclones, severe storms, flooding and tornadoes. A separate plan for hazardous materials is specific to the Sewage Treatment Plant.

When reviewing the physical plant of the City's utility facilities, the Utilities Manager evaluates vulnerabilities such as flood height, roof construction, and window protection. The Utilities Manager provides input in the Post-Disaster Recovery Task Force.

The Utilities Manager also directs the City's Transportation and Facilities Maintenance sections. The Facilities Maintenance section is responsible for maintenance and repairs on some government structures, and small new construction and additions.

Key West Transportation Department. The Transportation Department provides for citywide and fixed route intra county transportation services in the lower keys, operating a fleet of buses. It also assists in transportation and evacuation planning. The Department's Hurricane Plan and Procedures are designed to effectively implement its responsibility of moving civilians to shelters or, in the event of an out-of-county evacuation, to staging areas for school bus transport to the mainland shelter at Florida International University. The

Department participates in the emergency after-action process and formulates measures to address future needs.

Key West Police Department. The Police Department is responsible for overall law enforcement and protection of residents and visitors in the City of Key West. The Department plays a key role in planning and response during emergencies. The permanent standing Hurricane Preparedness Committee reports to the Chief of Police and is responsible for preparation, review, and revisions of plans, procedures, operations and training materials relating to hurricane preparation, response, and recovery. The committee prepares after-action critiques of every implementation or exercise of any element of the disaster response and recovery plan and provides recommendations for addressing future problems.

The Police Department's preparedness and response activities include supervision of the Emergency Law Enforcement and Traffic Control plan, coordination with other City Departments, and outside agencies (Monroe County Sheriff's Office and the Florida Highway Patrol to promote speedy and safe evacuation), communications with base operations, field personnel, and emergency shelters.

Key West Fire Department. The Fire Department provides emergency management assistance and direction to the City of Key West in concert with other duties of fire control, fire prevention, and fire and hurricane public education. The Department plays a lead role in planning and response for emergencies.

The Fire Department's preparedness and response mitigation activities include assisting Monroe County Emergency Management, directing the operations of the City's Emergency Operations Center, and contributing to pre-planning strategies and evacuation planning. The Department is responsible for planning for hazardous materials incidents, maintaining a hazardous materials inventory and response plan, and responding to hazardous materials incidents.

Key West Port Department. The City hosts many cruise ships through the year, serving approximately 1 million a year. The Ports Director meets with the U.S. Coast Guard when impending weather conditions may prompt decisions regarding port operations and whether to close the Key West Harbor to cruise ships and other large vessels. Prior to storm conditions, the department coordinates preparation of private vessels in both the City Marina and Key West Bight Marina and secures the ports facilities.

8.3 Hazards and Risk in Key West

Historic Storms

From the wreck of the treasure-laden ship, Nuestra Senora de Atocha, destroyed by a hurricane in 1622 to the present, hurricanes have played a major role in the life of Key West. Some of the more significant events include:

- October 11, 1846. As one survivor commented, it was “the most destructive of any that had ever visited these latitudes within the memory of man”. Most of the damage was located in the north and west sides of the island, along Whitehead and Duval Streets to the Gulf (Bahama Village and Truman Annex) and the Key West Bight. Damage included buildings that were pulled off their foundations and swept out to sea, uprooted trees, destruction of a lighthouse, and the cemetery located along South Beach was washed away with the dead scattered in trees. Fort Zachary Taylor, which was under construction, was severely damaged.
- October 11 and 17, 1909. Listed by the National Hurricane Center as one of the most intense to affect the U.S., this storm was a Category 3 with a barometric pressure of 957 millibars. According to the Key West Historic Districts Hurricane Guide, “the arrival of this hurricane caught residents completely unprepared . . . Seven factories, several churches, and much of the waterfront was destroyed. Afterwards, debris clogged the streets.” To make matters worse, another Category 3 hurricane struck on October 17, 1910, causing 30 deaths and \$300,000 in damage (not adjusted).
- September 9-10, 1919. One of the most deadly and intense hurricanes listed in the records of the National Hurricane Center, this Category 4 storm (927 millibars), this storm caused approximately 600 deaths. Key West recorded winds of 95 mph and flood levels were 5-7 feet above Mean Sea Level.

Other Notable Hurricanes that Affected Key West

Hurricanes Donna (1960), Betsy (1965), and Inez (1966), Tropical Storm Alberto (1982), Hurricanes Kate (1982), Hurricane Floyd (1987), and Hurricane Andrew (1992).

- November 11-12, 1980. The most notable flooding not produced by storm surge resulted from the 24-hour event known as the “Veteran’s Day Storm”. Nearly 23 inches of rain – the area’s record – resulted from the influence of Tropical Storm Jeanne over Cuba and a stalled cold front. Widespread flooding affected streets and low-lying areas that were unable to drain due to

the flat topography and continual rainfall. Reports indicate that 300 vehicles and 500 buildings were seriously damaged.

- September 24-26, 1998. Hurricane Georges (Category 2) made landfall in the Lower Keys. The entire county was affected to some extent (1 death and \$300 million total damage). Maximum sustained winds at the Naval Air Station (Boca Chica) were 92 mph and the Monroe EOC in Marathon reported gusts to 110 mph. According to the Key West Weather Service, precipitation levels in the Lower Keys were identified as 8.65 inches on the south side of Sugarloaf Key, 8.38 inches at Key West International Airport, and 8.20 inches on Cudjoe Key.
- October 22, 1999. With little warning, Hurricane Irene suddenly altered its course and crossed near Key West.

Damages due to Hurricane Georges

Table 8-2 summarizes reimbursements received by the City from FEMA's disaster assistance program (see also Table 5-7 for reimbursements received by others). These amounts underestimate the total cost of damage to public property and expenditures of manpower for recovery because they do not include the non-federal share nor do they include costs determined to be ineligible. Other than debris removal and emergency work on beaches, the two most costly projects were the seawall replacement (\$6.9 million) and repairs at the incinerator plant (\$535,000).

The damage left after Hurricane Georges moved through the Keys illustrates the vulnerability and the types and magnitudes of damage and costs. Among the reported damage were the following:

- The Hemingway House, a historic property, was damaged by a 146 year old Banyan tree weakened by the winds and rain.
- The Key West International Airport's runway was flooded and one private plane was overturned.
- A number of roads and sites were covered in sand and debris.
- Houseboats were damaged.
- Waterfront businesses suffered damage including lost piers and decks.

Table 8-2. FEMA Reimbursements for Hurricane Georges (DR#1249)

FEMA Category of Damage	Amount of Reimbursements
A Debris Removal	\$3,390,800
B Emergency Protective Measures	\$1,925,900
C Roads and Bridges	0
D Water Control Facilities	0
E Buildings and Equipment (Public)	\$792,800
F Utilities	0
G Parks, Recreational Facilities and Other	\$7,597,500
Totals	\$13,707,000

Hurricane Flooding as Predicted by SLOSH Modeling

The National Hurricane Center's surge model, called SLOSH (Sea, Lake, and Overland Surges from Hurricanes), estimates surges associated with different characteristics of tropical cyclones (track, forward speed, wind speed, etc.). The results can be combined with topographic mapping to delineate inland areas subject to flooding (with a margin of error of +/- 20).

Table 8-3. SLOSH Maximum Predicted Water Depths above MSL

Ocean Side						Bay Side					
Track Direction	Storm Categories					Track Direction	Storm Categories				
	1	2	3	4	5		1	2	3	4	5
WSW	3	4	9	9	10	WSW	4	6	9	10	10
W	4	6	8	9	10	W	4	7	8	10	10
WNW	4	6	8	9	10	WNW	4	7	8	10	10
WN	4	6	7	9	9	NW	4	6	7	9	9
NNW	4	5	7	9	9	NNW	4	5	7	9	9
N	4	5	7	9	9	N	4	5	7	9	9
NNE	4	5	7	9	9	NNE	4	5	7	9	9
NE	4	5	6	8	9	NE	3	5	6	8	9
ENE	4	5	6	8	10	ENE	4	5	6	9	10
E	3	5	7	8	10	E	4	5	7	9	10

Rainfall/Fresh Water Flooding in Key West

In several locations the City's storm drain system is inadequate to handle as little as three to five inches of rainfall, which happens several times each year. The types of damage caused

by flooding of this nature include traffic rerouting, business closures, and flooding above finished floor height and above of homes and businesses. In just the Old Town area at North Duval, a typical storm can disrupt businesses causing losses of approximately \$10,000 each day. Damage to private structures and contents and the costs of clean up are not estimated. The most susceptible locations include:

- The north section of Old Town bounded by the Gulf of Mexico and Whitehead and Green Streets, some buildings experience flooding above finished floor elevation flooding approximately twice a year;
- Palm Avenue and Eaton Street (at White Street) which can reroute 5,000 vehicles per day during heavy rains, affects businesses, and causes stranding of residents of the adjacent housing authority homes;
- Sirugo Avenue and Sunshine Drive, which has floods above finished floors in residences annually;
- United Street and Thompson Street basin, which has causes flooding of residences finished floor;
- North Roosevelt Boulevard (US Highway 1) which floods two outbound lanes completely during heavy rain storms 2 to 3 times each year, negatively impacting businesses and causing significant traffic rerouting;
- Fourth Street at Patterson Avenue floods frequently, causing commercial business and residential traffic disruptions;
- Blanch, Dennis and Duncombe Streets causing school bus disruptions and flooding above finish floors of residences;
- Duck Street and 20th Street, causing traffic disruptions and flooding above finish floors of residences;
- Various very localized flooding spots causing water infiltration into homes and businesses can be found around town.

NFIP Floodplain Mapping

Key West has participated in the National Flood Insurance Program (NFIP) since September 1971. The City's current Flood Insurance Rate Map, prepared by FEMA, is dated February 15, 2002. The FIRM delineates areas that have been determined to be subject to flooding by the "base flood," the flood that has a 1-percent-annual chance of flooding in any given year (commonly called the 100-year flood). Flooding of this frequency is not associated with a specific hurricane category. Key West has the following flood zones and flood elevations (above MSL) shown on the FIRM:

- VE Zones (coastal flood with velocity hazard wave action) of 11-13 feet are near the shoreline and in sections adjacent to Cow Key Channel on the border with Stock Island.

- AE Zones (areas subject to flooding but waves are predicted to be less than 3-feet in height) of mostly 7-9 feet are indicated for the newer sections of Key West and in areas of “Old Town” close to the shoreline.
- X Zones are delineated in most of the inland areas of the older, historic portion of the City. X Zones include areas determined subject to flooding by the 0.2-percent annual-chance flood (500-year) and areas that are outside the 500-year floodplain.
- AO Zones, where flood depths of 1-3 feet are predicted in sloping areas for Sunset Island offshore of the west side of Key West.

**NFIP Flood Insurance
Policies in Key West: 8,345**

**Claims paid since 1978:
621**

<http://www.fema.gov/nfip/pcstat.shtm>
(as of December 31, 2004)

NFIP Repetitive Loss Properties

Data provided by the Florida Department of Community Affairs identifies properties that are, or have been, insured by the National Flood Insurance Program and that have received two or more claims of at least \$1,000. Within unincorporated Key West there are 51 repetitive loss properties. The cumulative payments (claims paid on building damage and on contents damage) range from just over \$5,000 to more than \$598,000.

Tornadoes in Key West

Table 8-4 includes information on tornadoes that have affected Key West since the late 1950s. Fortunately, no deaths or injuries have resulted.

Table 8-4. Tornadoes in Key West

Date	Fujita Scale	Damage (not adjusted)
July 1, 1959	F-0	\$3,000
June 2, 1966	F-0	\$25,000
June 18, 1972 (Hurricane Agnes)	F-2	\$400,000
August 20, 1978	F-0	\$25,000
June 28, 1979	F-0	\$3,000
May 16, 1988	F-0	\$1,000
May 3, 1989	F-0	Not reported
May 1999	F-0	Not reported
October 2000	F-0	Not reported
October 2003	F-0	Not reported

Source: NWS Key West Warning Meteorologist

Drought Hazards

Drought hazards for the planning area are described in Section 6.4. Key West's risk due to drought is comparable the drought risk throughout the area.

Wildland Fire Hazards

The Florida Forestry Department has not indicated that areas in Key West are likely to experience significant risk of wildland or brush fires.

Key West's Important and Critical Facilities

Figure 8-1 at the end of this chapter shows the locations of the City's bridges, water treatment and sewer facilities, city buildings and emergency facilities.

Table 8-5. Important and Critical Facilities in Key West

Critical/Essential Facilities: <ul style="list-style-type: none">• bridges• 17 sewer lift stations and one Wastewater Treatment Plant• 2 stormwater lift stations• City buildings (Old City Hall, City Hall with Fire Facilities, City Hall Annex, City Hall Parking Garage, Old Town Garage) Planning dept, .• City Parks & Recreational Facilities: Martin Luther King Pool Building, Indigenous Park, Mallory Square, Douglas Gym, Clayton Sterling sports complex, Wickers Sports Complex, Bayview Park Recreational Center, Fire Station Museum• Emergency Operations Center (Public Safety Facility), Fire Station #3,• Key West DOT Building, Public Works Building, OMI Repair Building• Southernmost Transfer Station	Other Public Facilities: <ul style="list-style-type: none">• Dee Poo Hospital• Lower Florida Keys Health Center• U.S. Naval Hospital• Key West International Airport• Florida Highway Patrol Substation South Roosevelt Boulevard• US Coast Guard Base• Military Fuel Storage Facility• Keys Energy Services Main Office & Substation• Florida Keys Aqueduct (FKAA) Authority Main Office, Water Towers, Storage Facility, Pump Station
Hazardous Materials Sites (302 Facilities): <ul style="list-style-type: none">• Bell South, 530 Southard Street• KES 1001 James Street• Key West Wastewater Treatment Plant, Trumbo Point Annex, Fleming Key• Naval Air Station, Trumbo Point	Mobile Home and Recreational Vehicle Parks (as of October 1995): <ul style="list-style-type: none">• Key West Villas (Poinciana) LTD Mobile Home Park• Stadium Mobile Home Park• Key West Trailer Court• Mastic
Marinas: <ul style="list-style-type: none">• A & B Marina• Galleon Marina• Garrison Bight Marina• Hilton Haven Marina	Cruise Ship and Ferry Ports: <ul style="list-style-type: none">• Mallory Square• Outer Mole• Pier B• KW Ferry Terminal

Table 8-5. Important and Critical Facilities in Key West

<ul style="list-style-type: none">• Key West Seaport• Key West Yacht Club Marina• Land's End Marina• Truman Annex Marina• City Marina• Ocean Key House	
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8.4 Damage Reduction Activities

On-Going Activities

The City activates a Post-Disaster Recovery Task Force after a major damaging event has occurred. In addition to members from City departments, various neighborhood and interest-based groups are represented. A main focus of the task force is to encourage public participation in the post-storm redevelopment planning and review process, including historic preservation interests. The Task Force also analyzes the outcome of an event and makes recommendations for mitigation.

Between 1992 and 1999 the City of Key West participated in the NFIP's Community Rating System. In mid-2005, the Key West Planning Department determined to seek reinstatement which, if approved, will yield a reduction in the cost of federal flood insurance.

Recent Projects

The City has undertaken various projects to reduce exposure to future damage, such as drainage improvements and retrofits of public buildings and facilities (with or without FEMA funding). Table 8-6 lists projects completed between 1999 and 2004.

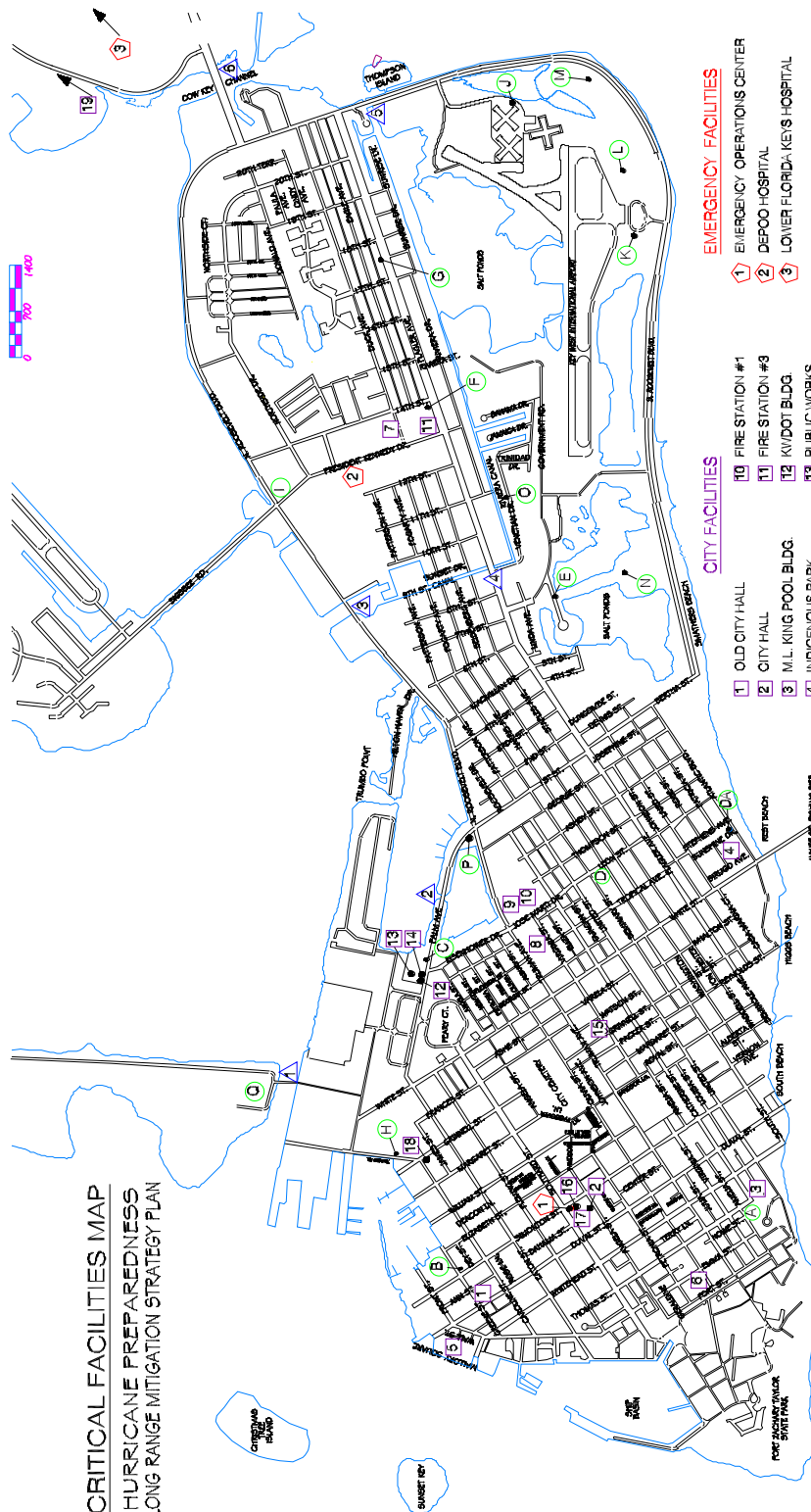
Table 8-6. Key West Mitigation Projects (1999–2004)

	Mitigation Project Location
Storm Shutters	Key West Transfer/SWTE
	DOT Building
	FDS Gym
	Fire Station #1 HMGP
Stormwater Improvement	Grinnel Street (Backflow preventers)
	William Street
	Elizabeth Street

Table 8-6. Key West Mitigation Projects (1999–2004)

	Mitigation Project Location
	Green Street
	Duval Street
	Ashby Street Pump Station
	Simonton Street (Duval/Front Pump Station)
	Major Pipe Cleaning Project
Injection Well Projects	White Street
	Kamien Subdivision
	Fort Street
	Reynold Street
	Searstown/Donald Ave
	2005 Project: 26 Locations
	Margaret Street
	Olivia Street
Berms & Beaches	Rest Beach Berm
	Dog Beach Berm
	South Beach Berm
	Simonton Beach Berm
	Smathers Beach Berm
	Seawall Additional Length
	South Beach Pier

CRITICAL FACILITIES MAP
HURRICANE PREPAREDNESS
LONG RANGE MITIGATION STRATEGY PLAN



BRIDGES

- A FLEMING KEY
- B GARRISON BRIDGE
- C SALT RUII CHANNEL
- D 9TH STREET CANAL
- E RIVERA CANAL
- F COW KEY CHANNEL

SLS - SEWER LIFT STATIONS

- F 1400 FOURTEENTH ST.
- G 3545 FLAGLER AVE.
- H 250 TRUMBOLD RD.
- I 3105 N. ROOSEVELT BLVD.
- J 3808 S. ROOSEVELT BLVD.
- K 3485 S. ROOSEVELT BLVD.
- L 3557 S. ROOSEVELT BLVD.
- M 3805 S. ROOSEVELT BLVD.
- N 2401 S. ROOSEVELT BLVD.
- O 2700 VENETIAN DR.
- P GARRISON BLVD IT CAUSEWAY
- Q WASTEWATER TREATMENT PLANT

CITY FACILITIES

- 1 OLD CITY HALL
- 2 CITY HALL
- 3 M.L. KING POOL BLDG.
- 4 INDIANOUS PARK
- 5 MALLORY SQUARE
- 6 DOUGLAS GYM
- 7 VICKERS SPORTS COMPLEX
- 8 BAYVIEW PARK REC. CENTER
- 9 PUBLIC SAFETY FACILITY
- 10 FIRE STATION #1
- 11 FIRE STATION #3
- 12 AV/IDOT BLDG.
- 13 PUBLIC WORKS
- 14 OMI REPAIR BLDG.
- 15 FIRE STATION MUSEUM
- 16 CITY HALL ANNEX
- 17 CITY HALL PARKING GARAGE
- 18 OLD TOWN GARAGE
- 19 SOUTHERN WASTE TO ENERGY FACILITY

EMERGENCY FACILITIES

- 1 EMERGENCY OPERATIONS CENTER
- 2 DEPOO HOSPITAL
- 3 LOWER FLORIDA KEYS HOSPITAL



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